

GORSHKOV, S.I.

Effect of ultrasound on the state of the nervous system;  
according to materials on the change in the latency period  
of unconditioned reflex reactions in white rats. Uch. zap.  
Mosk. nauch.-issl. inst. san. i gig. no.11:79-90 '63.  
(MIRA 17:1)

GORSHKOV, S.I.; KALININA, N.P. (Moskva)

Physiological and hygienic characteristics of the conditions  
the working regime and the rest periods of female spinners.  
Gig. truda i prof. zab. 7 no.1:29-36 Ja'63 (MIRA 16:12)

I. Institut gigiyeny imeni F.F. Krishana, Moskva, i Institut  
truda gosudarstvennogo komiteta Soveta Ministrov SSSR po  
vpresam truda i zarabotnoy platy.

ROSHCHIN, I.V.; YEFIMOV, N.A.; GORSHKOV, S.I.

[Studies on work hygiene and occupational pathology connected with the influence of physical factors in industry]  
Issledovaniia po gigiene truda i profpatologii v sviazi s vozdeistviem fizicheskikh faktorov v proizvodstve. Moskva,  
Meditina, 1964. 17 p.  
(MIRA 18:7)

ACCESSION NR: AP4031815

S/0240/64/000/004/0037/0042

AUTHOR: Gorshkov, S. I.; Gorbunov, O. N.; Nikol'skaya, R. M.

TITLE: Certain problems of the biological action of ultrasound related to its use in industry

SOURCE: Gigiyena i sanitariya, no. 4, 1964, 37-42

TOPIC TAGS: ultrasound, ultrasonics, ultrasound biological action, 80-140 db ultrasound, 54 and 28 kc ultrasound, conditioned reflex activity, bioelectric cortex activity, unconditioned reflex, bloodforming system, endocrine gland system, brain tissue respiration, total body ultrasound exposure, local ultrasound exposure

ABSTRACT: Experimental rats and rabbits were exposed to ultrasound from UZG-7a and UZG-7g sirens. To ensure uniform exposure of body surface to ultrasound, the animals were placed into a metal sphere with a diameter of 1 m. The intensity of ultrasound, controlled by the distance of the sphere from the siren and by special filters, ranged from 80 to 140 db at frequencies of 54 and 28 kc. Indices

Card 1/3

ACCESSION NR: AP4031815

were conditioned reflex activity, bioelectric cortex activity, unconditioned reflexes, thyroid gland function, morphological composition of peripheral blood, brain and liver tissue respiration, and blood alkalinity reserve. Results show that 95-100 db at 54 kc for 1-3 hrs is the liminal intensity for the nervous, endocrine, and bloodforming systems of experimental animals. This liminal intensity becomes supraliminal with daily exposure or increased single exposure to 4-5 hrs. An intensity of 125 db at 28 kc is liminal for the thyroid gland. Supraliminal ultrasound intensities produce two phase shifts in the organism. The first phase appears immediately after exposure and disappears by the end of the day. The second phase starts on the second day after exposure, and its duration depends on ultrasound intensity. With 135-140 db at 54 kc the second shift lasts for 3 weeks, but at 28 kc is poorly expressed. Though human and animal ears cannot perceive high-frequency sound vibrations, ultrasound produces physiological and biochemical shifts in their organisms. It appears that ultrasound acts on the entire body surface and does not depend on the ears as receptors as shown in experiments with antiphones. Ultrasound acting locally on the body produces a lesser effect than total exposure of the body. Under industrial conditions ultrasound

Card 2/3

ACCESSION NR: AP4031815

exposure should be regarded as largely local because the worker's clothing acts as an effective filter for the covered body surface.  
Orig. art. has: 3 figures.

ASSOCIATION: Moskovskiy nauchno-issledovatel'skiy institut  
gigiyeny im. F. F. Erismana (Moscow Scientific-Research Hygiene  
Institute)

SUBMITTED: 04Feb63 DATE ACQ: 11May64 ENCL: 00  
SUB CODE: AM, IE NO REF Sov: 006 OTHER: 003

Card 3/3

GORSHKOV, S.I.; GUSEVA, Ye.A.

Reflex transition from tonus to tetanus in the skeletal muscles.  
Nerv. sist. no.5:64-65 '64. (MIRA 18:3)

1. Kafedra fiziologii cheloveka i zhivotnykh Leningradskogo  
gosudarstvennogo universiteta.

GORSHKOV, Sergey Il'ich; ANTROPOV, Gennadiy Andreyevich; GORBUNOV,  
Oleg Nikolayevich; GODIN, V.P., red.; LANDAU-TYLKINA,  
S.P., red.

[Biological action of ultrasound] Biologicheskoe deistvie  
ul'trazvuka. Moskva, Meditsina, 1965. 196 p.  
(MIRA 18:12)

NEYMAN, Vladimir Aleksandrovich; GORSHKOV, S.N., inzh., red.; LUKOVITSEV, A.A., inzh., red.; PETUKHOV, P.Z., doktor tekhn.nauk, red.; RUDIN, S.N., inzh., red.; SUSTAVOV, M.I., inzh., red.; KHRISANOV, M.I., kand.tekhn.nauk, red.; MAKAROV, Ye.M., red.izd-va; DUGINA, N.A., tekhn.red.

[Assembling centralized lubrication systems] Montazh tsentralizovannykh smazochnykh sistem. Moskva, Gos.nauchno-tekhn.izd-vo mashinostroit.lit-ry, 1960. 109 p. (Biblioteka slesaria-montazhni-ka, vypusk 8). (MIRA 14:1)

(Lubrication and lubricants)

GORSHKOV, S.P.

Geological age and paleogeographical characteristics of terrace  
formation in the middle course of the Yenisey River. Dokl.AN SSSR  
137 no.5:1181-1184 Ap '61. (MIRA 14:4)

1. Moskovskiy gosudarstvennyy universitet im. M.V.Lomonosova.  
Predstavлено академиком A.L.Yanshinym.  
(Yenisey Valley--Terraces (Geology))

GORSHKOV, S.P.; RYBAKOVA, N.O.

Composition and age of Eopleistocene deposits in the Krasnoyarsk region. Dokl. AN SSSR 141 no.3:683-686 N '61. (MIRA 14:11)

1. Moskovskiy gosudarstvennyy universitet im. M.V. Lomonosova.  
Predstavлено академиком V.N. Sukachevym.  
(Krasnoyarsk region--Geology, Stratigraphic)

GORSHKOV S. P.

Dissertation defended in the Geological Institute for the academic degree of Candidate of Geologo-Mineralogical Sciences:

"Quaternary Deposits and the Developmental History of the Relief of Priyeniseyskaya Siberia."

Vestnik Akad Nauk, No 4, 1963, 119-145

GORSHKOV, S. V., and Berezin, B. A.

"The Plant as a Forge of Cadres," Technological Developments at the Leningrad Metal Works imeni Stalin, Moscow, Mashgiz, 1957. p. 292.

GORSHKOV, S.V., tokar'

For the sake of a great cause. Transp. stroi. 12 no.1:6-7  
Ja '62. (MIRA 17:2)

1. Zavod No.1 Gosudarstvennogo ordena Lenina i ordena Trudovogo Krasnogo Znameni upravleniya stroitel'stva Moskovskogo metropolitena.

GORSHKOV, S.V., inzh.; MITYUSHKIN, K.G., kand. tekhn. nauk

Distance-type contactless remote control devices for power system  
dispatcher control stations. Trudy VNIIE no.17:33-46 '63.  
(MIRA 17:9)

GORSHKOV, S.V., inzh.; MITYUSHKIN, K.G., kand. tekhn. nauk

Pulse-type control device for regulating power transfer. Trudy  
VNIIE no.17:68-78 '63.  
(MIRA 17:9)

GORSHKOV, S.Z., kandidat meditsinskikh nauk

Late results of surgery for inguinal hernia based on Professor  
A.V.Martynov's method. Khirurgiia 32 no.2:30-34 P 156. (MLRA 9:7)

1. Iz gospital'noy khirurgicheskoy kliniki imeni prof. A.V.Martynova  
I Moskovskogo ordena Lenina meditsinskogo instituta (dir. - prof.  
V.E.Salishchev)

(HERNIA, INGUINAL, surg.  
remote results of Martynov's technic)

EXCERPTA MEDICA Sec 16 Vol 7/9      Cancer      Sept 59

3931. Primary chorionepithelioma of the lung in a man (Russian text)  
LEVENSON Y. I. and GORSHKOV S. Z. Med. Inst., Moscow Vopr. Onkol. 1958, 4/5  
(611-616) Tables 1 Illus. 3

In a man of 52 a tumour was found in the right lung, and lobectomy was performed.  
Histologically, the tumour was a chorionepithelioma. The Aschheim-Zondek test was  
positive, and multiple metastases developed in the lungs, mediastinal lymph nodes  
and liver. Death occurred 49 days after operation. Detailed examination of the testes  
did not reveal any pathological changes.

~~GORES'KOV, S.Z., kand. med. наук.~~ (Moskva, ul. Studencheskaya, d. 42, kv. 98)

Treatment of elephantiasis of the extremities and genitals. Nov. khir.  
arkh. 5:96-100 S-0 '58.

(MIRA 12:1)

1. Kafedra gospital'noy khirurgii (zav. - prof. B.V. Petrovskiy) 1-go  
Moskovskogo meditsinskogo instituta.  
(ELEPHANTIASIS)

~~GORSHKOV, S.Z.~~, kand.meditinskikh nauk

Pathogenesis and classification of elephantiasis. Sov.med. 25 no.8:  
89-93 Ag '60.  
(MIRA 13:9)

1. Iz gospital'noy khirurgicheskoy kliniki (dir. - deystvitel'nyy  
chlen AMN SSSR prof. B.V. Petrovskiy (I Moskovskogo ordena Lenina  
meditsinskogo instituta im. I.M. Sechenova (dir. - prof. V.V. Kovalev).  
(ELEPHANTIASIS)

GORSHKOV, S.Z., kand.med.nauk

Contemporary achievements in television in surgical practice.  
Khirurgia no.12:119-121 '61. (MIRA 15:11)

1. Iz gospital'noy khirurgicheskoy kliniki (zav. - deystvitel'nyy chlen AMN SSSR prof. B.V. Petrovskiy) I Moskovskogo ordena Lenina meditsinskogo instituta imeni I.M. Sechenova.  
(TELEVISION IN SURGERY)

GORSHKOV, S.Z., kand.med.nauk

Planning and construction of surgical blocks. Sov.med. 26  
no.10:147-149 O '62.  
(MIRA 15:12)

1. Iz gospital'noy khirurgicheskoy kliniki imeni A.V.Martynova  
(dir. - deystvitel'nyy chlen AMN SSSR prof. B.V.Petrovskiy)  
I Moskovskogo meditsinskogo instituta imeni I.M.Schenova  
(rektor - chlen-korrespondent AMN SSSR prof. V.V.Kovanov).  
(HOSPITALS--CONSTRUCTION)

GORSHKOV, S.Z., dotsent

Diagnosis of multiple idiopathic hemorrhagic sarcoma of the skin  
(Kaposi's sarcoma). Khirurgiia 41 no.4:114-117 Ap '65.

(MIRA 18:5)

1. Gospital'naya khirurgicheskaya klinika (zav. - deyствител'nyy  
chlen AMN SSSR prof. B.V. Petrovskiy) I Moskovskogo ordena Lenina  
meditsinskogo instituta imeni Sechenova.

GORSHKOV, S.Z., dotsent (Moskva, Studencheskaya ul., d.42, kv.98)

Metastasizing of osteoblastoclastomas. Ortop., travm. i  
protez. 26 no.12:29-32 D '65.

1. Iz gospital'noy khirurgicheskoy kliniki (zav. - deystvitel'nyy  
chlen AMN SSSR prof.B.V.Petrovskiy) I Moskovskogo ordena Lenina  
meditsinskogo instituta imeni I.M.Sechenova. Submitted April 3,  
1965. (MIRA 19sl)

NIKONOV, V.A., dotsent; KARANDAYEVA, V.M., assistant; GORSHKOV, T.A., vrach.

Materials on the treatment of ascariasis in patients with Botkin's disease (epidemic hepatitis). Trudy KGMI no.10:317-321 '63.

(MIRA 18:1)  
1. Iz kafedry infektsionnykh bolezney (zav. kafedroy - dotsent  
V.A.Nikonov) Kalininskogo gosudarstvennogo meditsinskogo instituta.

GORSHKOV, V.; MAKSIMOV, A.

Labor aspects in the seven-year plan of a factory. Sots. trud 4  
no. 6:110-115 Je '59. (MIRA 12:8)

1. Nachal'nik otdela truda i zarabotnoy platy Moskovskogo zavoda  
shlifoval'nykh stankov (for Gorshkov).  
(Moscow--Machinery industry--Labor productivity)

GORSHKOV, V., master sports

Use the water wisely. Voen.izdat. 36 no.7:29 J1 '60.  
(MIRA 13:7)

(Swimming—Hygienic aspects)

"APPROVED FOR RELEASE: 08/25/2000

CIA-RDP86-00513R000516320010-3

VESLOVSKAYA, T.; SERGEYEV, N.; GUSCHIN, A.; VORONOV, O.; GORSHKOV, V.

For the health and happiness of children! Za bezop.dvish.  
no.6:8-10 Je '60. (MIRA 13:7)

1. Direktor detskogo parka im. Pavlika Morozova.  
(Children---Recreation) (Traffic safety)

APPROVED FOR RELEASE: 08/25/2000

CIA-RDP86-00513R000516320010-3"

GORSHKOV, V.; RUBAN, T.; MONAKHOV, A.; KALIKINSKIY, V.; KAPRALOV, M.

New machines in operation. Den. 1 kred. 21 no.3:51-57 Mr '63.  
(MIRA 16:3)

1. Glavnnyy bukhgalter Belgorodskoy oblastnoy kontory Gosbanka  
(for Gorshkov). 2. Starshiy inspektor glavnoy bukhgalterii  
Belgorodskoy oblastnoy kontory Gosbanka (for Ruban). 3. Starshiy  
ekonomist glavnoy bukhgalterii Kalininskoy oblastnoy kontory  
Gosbanka (for Monakhov). 4. Glavnnyy bukhgalter upravleniya  
filialami Gosbanka TSelinogradskoy oblasti (for Kalikinskiy).  
5. Starshiy mekhanik Tul'skoy oblastnoy kontory Gosbanka (for  
Kapralov).

(Banks and banking--Accounting) (Machine accounting)

GORSHKOV, V.A., (Leningrad. Zoologicheskiy per., d.3, kv.10)

Comparative evaluation of methods of reduction of bone fragments  
in closed fractures of the surgical neck of the humerus [with summary  
in English]. Vest.khir. 80 no.6:21-25 Je '58 (MIRA 11:7)

1. Iz 2-y khirurgicheskoy kliniki (zav. - prof. G.A. Gomzyakov)  
Leningradskogo instituta usovershenstvovaniya vrachey im. S.M. Kirova  
i bol'nitsy im. V.I. Lenina (glavnnyy vrach - V.S. Razumikhin).  
(HUMERUS, fract.  
neck, reduction of fragments, methods (Rus))

GORSHKOV, V. A.: Master Med Sci (diss) -- "The treatment of breaks in the surgical neck of the arm". Leningrad, 1959. 14 pp (Leningrad State Order of Lenin Inst for the Advanced Training of Physicians im S. M. Kirov), (KL, No 12, 1959, 131)

GORSHKOV, V.A., kand.med.nauk

Attachment for the Petrov-Iasnov apparatus for fastening a  
3-prong nail. Ortop., travm.i protez. 22 no.4859-60 Ap '61.  
(MIRA 14:11)

1. Iz 2-iy khirurgicheskoy kafedry (zav. - prof. G.A. Gomzyakov)  
Leningradskogo instituta usovershenstvovaniya vrachey im.

S.M. Kirova.

(INTERNAL FIXATION IN FRACTURES)

GORSHKOV, V.A., kand. med. nauk (Leningrad, Zoologicheskiy per.,  
d.3, kv. 10)

Late results of surgical treatment of medial fractures  
of the femoral neck with a 3-flanged metallic pin. Ortop.,  
travm. i protez. 24 no.3:18-22 Mr '63. (MIRA 17:2)

1. Iz 2-y kafedry khirurgii (zav. - prof. G.A. Gomzyakov)  
Leningradskogo instituta usovershenstvovaniya vrachey  
imeni Kirova.

STASKEVICH, Nikolay Lukich; GORSHKOV, V.A., redaktor; MOLOKOVA, Ye.I.,  
redaktor; LAPER'YE, I.P., redaktor; IONINA, I.N., redaktor; SOKOLOVA,  
Ye.V., tekhnicheskij redaktor; GENNAD'YEVA, I.M., tekhnicheskij  
redaktor

[Municipal gas supply] Gasosnabzhenie gorodov. Izd. 2-e, perer. i  
dop. Leningrad, Gos. nauchno-tekhn. izd-vo neftianoi i gorno-  
toplivnoi lit-ry, Vol. 1. 1954. 623 p. Vol. 2. 1954. 646 p.  
(Gas) (MIRA 8:4)

"APPROVED FOR RELEASE: 08/25/2000

CIA-RDP86-00513R000516320010-3

*Gorshkov, V.A.*

**GORSHKOV, V.A.**

Leningrad's gas supply. Gaz.prom. [no.11]:27-30 '57. (MIRA 10:12)  
(Leningrad-Gas)

APPROVED FOR RELEASE: 08/25/2000

CIA-RDP86-00513R000516320010-3"

STASKEVICH, Nikolay Lukich; GORSHKOV, V.A., nauchnyy red.; IONINA, I.N.,  
vedushchiy red.; YASHCHURZHINSKAYA, A.B., tekhn.red.

[Manual on gas distribution] Spravochnoe rukovodstvo po gazo-  
snabzheniiu. Leningrad, Gos.nauchno-tekhn.izd-vo neft. i gorno-  
toplivnoi lit-ry, Leningr.otd-nie, 1960. 875 p.

(Gas)

(MIRA 13:12)

GORSHKOV, V.A.

Gas supply for Leningrad in 1959-1961. Gaz. prom. no. 10:18-  
20 0 '61. (MIRA 14:11)  
(Leningrad-Gas distribution)

"APPROVED FOR RELEASE: 08/25/2000

CIA-RDP86-00513R000516320010-3

YAKOVLEV, A.T.; VAYSBERG, Ya.D.; GORSHKOV, V.A., red.

[Designing city gas mains] Proektirovaniye gorodskikh  
gazoprovodov. Moskva, Izd-vo M-va kommun.khoz.  
RSFSR, 1963. 163 p.  
(MIRA 17:6)

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CIA-RDP86-00513R000516320010-3"

"APPROVED FOR RELEASE: 08/25/2000

CIA-RDP86-00513R000516320010-3

SHAMARDIN, N. N.; GORSHKOV, V. A. and FLEYSHMAKHER, E. G.

"Public gas supply and the operation of municipal gas distribution systems  
in the USSR."

report to be presented at the 9th Intl. Gas Conference, The Hague, 1-4 Sept 1964

APPROVED FOR RELEASE: 08/25/2000

CIA-RDP86-00513R000516320010-3"

"APPROVED FOR RELEASE: 08/25/2000

CIA-RDP86-00513R000516320010-3

SHAMARDIN, N.N.; GORSHKOV, V.A.; FLEYSHMAKER, Ye.G.

City gas works of the Soviet Union. Gaz. prom. 9 no.8:21-25 '64.  
(MIRA 17:9)

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CIA-RDP86-00513R000516320010-3"

"APPROVED FOR RELEASE: 08/25/2000

CIA-RDP86-00513R000516320010-3

GORSHKOV, V.A.; PODMOSHENSKIY, I.V.; POPOV, L.V.

Uga of heavy elements in a powerful capillary light source.  
Bsp.nauch.fot. 9:167-170 '64.

(MIRA 18:11)

APPROVED FOR RELEASE: 08/25/2000

CIA-RDP86-00513R000516320010-3"

15280-66 ENT(1)/ENT(m)/I/EMP(t)/EMP(b) IJP(c) JL/MW/GG  
ACC NR: AT6001402 SOURCE CODE: UR/3180/64/009/000/0167/0170

AUTHOR: Gorshkov, V. A.; Podmoshenskiy, I. V.; Popov, L. V.

ORG: none

TITLE: The use of heavy elements in power capillary light source

21, 44, 55

48  
46

B7/

SOURCE: AN SSSR, Komissiya po nauchnoy fotografii i kinematografii, Uspekhi nauchnoy fotografii, v. 9, 1964. Vysokoskorostnaya fotografiya i kinematografiya (High-speed photography and cinematography), 167-170 and insert facing page 168

TOPIC TAGS: light source, capillary light source, electric discharge

ABSTRACT: For the generation of continuous spectra from capillary sources the source must have a large coefficient of continuous absorption. Large pressures are required within the capillary, i.e., low efflux velocity. This can be achieved by introducing into the capillary walls elements with atomic weights of the order of 100 - 200 which reduce the efflux velocity from 12 to 2 - 3 km/sec. The final capillary tube used for testing had the form shown in Fig. 1.

Card 1/2

ACC NR.

AT6001402

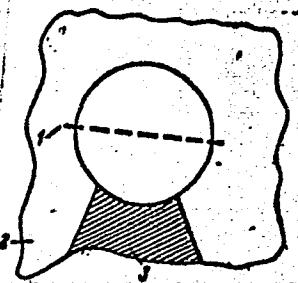


Fig. 1 Capillary for the determination of the relative emission capability of light and heavy atoms (end view). 1 - position of the spectroscope slit, 2 - textolite; 3 - KRS-5 monocrystal containing Tl and TlBr compounds.

An analysis of the experimental data shows that the use of heavy elements in strong capillary light sources does indeed increase the pressure within the capillary. The emissivity of heavy plasmas containing Cd, I, Tl, and Br atoms is 4 - 6 times larger than the emissivity of a plasma containing only H, C, and O. Heavy atoms allow, consequently, the use of short capillaries leading to light sources close to surface radiators. Orig. art. has: 2 formulas and 2 figures.

SUB CODE: 14, 20 / SUBM DATE: none / ORIG REF: 002 / OTH REF: 001

Card 2/2 mjs

"APPROVED FOR RELEASE: 08/25/2000

CIA-RDP86-00513R000516320010-3

GORSHKOV, S.G., admiral Flota

Party's concern about the fleet. Mor. sbor. 46 no.7:9-18 Jl  
'63. (MIRA 16:11)

APPROVED FOR RELEASE: 08/25/2000

CIA-RDP86-00513R000516320010-3"

"APPROVED FOR RELEASE: 08/25/2000

CIA-RDP86-00513R000516320010-3

GORENFOV, S.G., admiral flota

Soviet sailors in the battles for the liberation of the Danube  
states, Mor. sbor. 47 no.8:3-13 Ag '64.

(MIRA 18:7)

APPROVED FOR RELEASE: 08/25/2000

CIA-RDP86-00513R000516320010-3"

CORSHKOV, S.G., admiral flota, Geroy Sovetskogo Soyuza

Honorary awards of the motherland oblige. Mor. sbor. 48 no.6:  
6-7 Je '65.  
(MIRA 18:6)

1. Glavnokomanduyushchiy voyenno-morskim flotom Soyuza SSR.

GORSHKOV, S., admiral flota

Combat watch of Soviet sailors. Voen. Znan. 41 no.5:6-7 My '65.

1. Glavnokomanduyushchiy Voyenno-morskim flotom. (MIRA 18:5)

"APPROVED FOR RELEASE: 08/25/2000

CIA-RDP86-00513R000516320010-3

GORSHKOV, S.G., admiral

Perfect combat readiness of the navy in sea and ocean areas.  
Komm. Vooruzh. Sil 46 no.4:18-23 F '65.

(MIRA 18:5)

APPROVED FOR RELEASE: 08/25/2000

CIA-RDP86-00513R000516320010-3"

ACC NR: AP6026420

(N)

SOURCE CODE: UR/0375/66/000/005/0003/0013

AUTHOR: Gorshkov, S. G. (Admiral of the Fleet; Member Tak KPSS; Hero of the Soviet Union)

ORG: None

TITLE: The XXIII congress of the CPSU and the tasks of navymen

SOURCE: Morskoy sbornik, no. 5, 1966, 3-13

TOPIC TAGS: political system, political thought, naval training, naval aircraft, nuclear submarine, combatant ship, propulsion system, missile program, nuclear weapon

ABSTRACT: The contributions made by the recent XXIII Congress of the Communist Party of the Soviet Union in the struggle for Communism are discussed, as are the exploits of the Soviet people, from the swift gains made in scientific and technological fields to the progress made in improving the standard of living of the Soviet citizen. The Congress denounced American imperialism and pointed out the increased spending of American money for military purposes, much of it on the American Navy. The Soviet Navy must therefore continue to present a well-rounded, effective force to meet this danger. Efforts to do so are noted, including the changes made in the main propulsion installations of warships, the developments in nuclear weapons, in

Card 1/2

ACC NR: AP6026420

submarines with atomic propulsion, which now occupy a leading place in the Soviet deterrent force, and in the development of naval missile carrying aviation. The quality of Soviet Navy officers and men is noted and it is pointed out that the Soviet Navy must put into effect the guidance offered by the XXIII Congress concerning political and military training of its members, in order to continue as the bulwark of defense of the Motherland. Orig. art. has: 8 figures.

SUB CODE: 05,15/SUBM DATE: None

Card 2/2

ACC NR: AN7002251

SOURCE CODE: UR/9008/67/000/027/0004/0004

AUTHOR: Gorshkov, S. G.; Grishanov, V. M.; Kasatonov, V. A.; Sergeyev, N. D.;  
Borzov, I. I.; Kotov, P. G.; Ivanov, V. N.; Fominykh, V. A.; Butoma, B. Ye.;  
Lobov, S. M.; Orel, A. Ye.; Chursin, S. Ye.; Amel'kov, N. N.; Andreyev, V. A.;  
Chabanenko, A. T.; Anisimov, I. A.; Smirnov, N. I.; Volcsatov, B. M.; Slivin, Ye. M.;  
Noskov, A. K.; Karaganov, L. I.; Sutyagin, B. V.; Sukachev, K. P.; Sukhov, S. M.;  
Vashantsev, V. I.; Tkachenko, T. I.; Napitukhin, V. A.; Smirnov, M. S.; Gorokhov,  
A. S.

ORG: none

TITLE: Death of Vice-admiral V. P. Razumov

SOURCE: Krasnaya avezda, no. 27, 01 Feb 67, p. 4, col. 6

TOPIC TAGS: military personnel, scientific personnel

## ABSTRACT:

Engineer Vice-admiral V. P. Razumov is dead. He was born in 1909. In the postwar period he served with the Northern fleet and the main administration of the Navy.

SUB CODE: 05/ SUBM DATE: none / ATD PRESS: 5112

Card 1/1

UDC: none

ACC NR: AM6011891

Monograph

UR

Gorshkov, Sergey Il'ich; Antropov, Gennadiy Andreyevich; Gorbunov, Oleg Nikolayevich  
Biological effect of ultrasound (Biologicheskoye deystviye ul'trazvuka) Moscow,  
Izd-vo "Meditina", 1965. 196 p. illus., biblio. 3000 copies printed.

TOPIC TAGS: ultrasonics, ultrasonic biologic effect, industrial hygiene, industrial  
medicine, safety engineering

PURPOSE AND COVERAGE: The biological effects of ultrasound, particularly of low frequency, are considered for a variety of circumstances. The author attempts to systematize preexisting foreign and Soviet data, as well as his own investigations, to indicate solutions to the important problems in this field. All types of exposure to ultrasound are considered, including therapeutic, industrial, and experimental exposures. Dosimetry is discussed, as is the need for establishment of definitive hygienic norms for exposure. The book should be useful to a wide variety of biologists, medical specialists (hygienists and therapists), scientific works, and safety engineers.

## TABLE OF CONTENTS

Introduction -- 3  
Ch. I. Ultrasound as a factor in man's external environment -- 7

Card 1/3

UDC: 612.014.45+613.644

ACC NR: AM6011891

1. Occurrence of ultrasound -- 7
2. Physical properties of ultrasound -- 9
3. Physical and physicochemical effect of ultrasound -- 14
4. Absorption of ultrasound by the tissues of the animal organism and the conversion energy in the organism -- 19
5. Some manifestations of the biological effect of ultrasound -- 25

Ch. II. Methodical bases for experimentation in the study of the biological effect of low-frequency ultrasound -- 41

1. High- and low-frequency ultrasound -- 41
2. The ultrasonic source and method of sonication -- 43
3. Ultrasonic measurement and dosimetry -- 48

Ch. III. The biological effect of low-frequency ultrasound -- 54

1. Effect of ultrasound on nervous system function -- 55
2. Effect of ultrasound on the functional condition of the thyroid gland -- 76
3. Effect of ultrasound on the morphological composition of the peripheral blood -- 82
4. Effect of ultrasound on thermoregulatory processes -- 88
5. Effect of ultrasound on biochemical indices -- 90

Ch. IV. Dependence of the biological effect of ultrasound on its intensity and frequency -- 98

Card 2/3

ACC NR: AM6011891

1. Experimental threshold dose of ultrasound -- 98
2. Some characteristics of the effect of ultrasound of more than threshold intensity -- 103
3. Additivity of ultrasonic biological effect -- 108

- Ch. V. The mechanism of the biological action of low-frequency ultrasound -- 110
1. Ways in which ultrasound affects the animal organism -- 111
  2. Nonequivalence of the general and local effect of ultrasound -- 125
  3. Dependence of the biological effect of ultrasound on the original condition of the organism -- 129

Ch. VI. Permissible dose of ultrasonic action and some methods for preventing harmful effects in animal experiments -- 141

Ch. VII. The effect of ultrasound on the organism of workers in industrial conditions -- 154

1. Ultrasound in industry -- 154
2. Changes in the organism of workers exposed to ultrasound -- 161
3. Protection from ultrasound in industry -- 179

Conclusion -- 183

Bibliography -- 187

SUB CODE: 06/ SUBM DATE: 190ct65/ ORIG REF: 114/ OTH REF: 126  
Card 3/3

GORSHKOV, V.F.

Automatic device for the removal of chanfer from the piston pin.  
Avt. prom. no. 1:39-40 Ja '61.

(MIRA 14:4)

I. Yaroslavskiy motornyy zavod.

(Pistons)

S/126/63/015/003/015/025  
E193/E383

## AUTHORS:

Dityatkovskiy, Ya.M., Andreyev, I.V. and  
Gorshkov, V.F.

## TITLE:

The effect of low melting-point metal coatings on the mechanical properties of constructional and stainless steels

PERIODICAL: Fizika metallov i metallovedeniye, v. 15, no. 3,  
1963, 435 - 438

TEXT:  
The effect of Cd, Sn and Zn coatings on the mechanical properties of the following steels was studied: armco iron; steel 20, steel 45, 40XHMA (40KhNMA); 30XrCA (30KhGSA); 1X18H9T (1Kh18N9T) and 34878 (EI878). The coatings, 15  $\mu$  thick, were deposited electrolytically. Their effect on strength and ductility of the steels at 20 to 900  $^{\circ}$ C was determined by tensile tests carried out at a strain rate of 16%/min. Typical results are reproduced graphically in Fig. 1. The UTS ( $s_k$ , kg/mm<sup>2</sup>), reduction in area ( $\psi$ ) and elongation ( $\delta$ , %) of armco iron are plotted against the test temperature ( $^{\circ}$ C), curves 1 and 2 relating, respectively, to uncoated specimens and specimens coated

The effect of ....

S/126/63/015/003/015/025  
E195/E383

with Cd. In Fig. 2  $\Psi$  and  $\delta$  of steel 45 are plotted against the test temperature for specimens with and without Sn coatings (curves 2 and 1, respectively). The temperature-dependence of  $\Psi$  of steel 40KhNMA is reproduced in Fig. 3 for uncoated (curve 1) and Zn-coated (curve 2) specimens. Finally, in Fig. 4 the yield point ( $\sigma_y$ , kg/mm<sup>2</sup>) and  $\Psi$  of steels EI878 and 1Kh18N9T are plotted against the test temperature for uncoated (curve 1) and Zn-coated (curve 2) specimens. It will be seen that the harmful effect of the Cd, Zn and Sn coatings is confined to the temperature interval between the melting point of each of these metals and a certain critical temperature  $t_k$ , depending on the type of steel and its heat-treatment. The existence of  $t_k$  is explained in the following manner. Two parallel processes take place during deformation: 1) increase of the stresses associated with the formation of various defects acting as stress-concentrators; 2) stress relaxation, the importance of which increases with temperature. Failure of coated test pieces below  $t_k$  takes place by brittle fracture because the stresses associated with stress-risers reach a critical value determined by the magnitude of the

Card 2/5

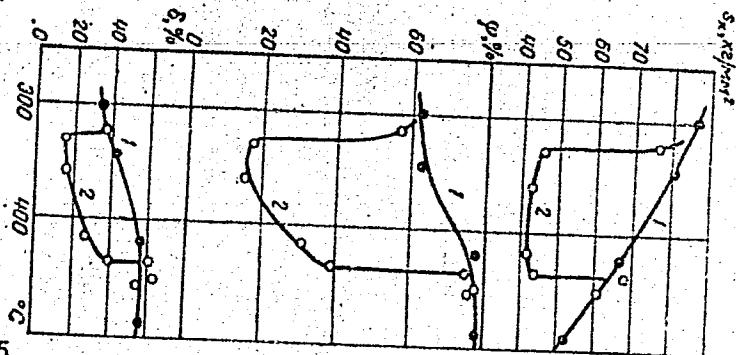
The effect of ....

S/126/63/015/003/015/025  
E193/E383

surface tension at the steel/coating interface. At temperatures higher than  $t_k$  this critical level of stress is not reached owing to stress relaxation and the specimen fails in a ductile manner. There are 4 figures and 1 table..

SUBMITTED: July 12, 1962

Fig. 1:



Card 5/5

"APPROVED FOR RELEASE: 08/25/2000

CIA-RDP86-00513R000516320010-3

ANDREYEV, I.V.; GORSHKOV, V.F.; DIMITKOVSKIY, Ya.M.

Effect of certain metal media on the mechanical properties of  
steel. Metalloved. i term. obr. met. no. 5:52-54 My '64.  
(MIRA 17:6)

APPROVED FOR RELEASE: 08/25/2000

CIA-RDP86-00513R000516320010-3"

"APPROVED FOR RELEASE: 08/25/2000

CIA-RDP86-00513R000516320010-3

GORSHKOV, V.F.; ANDREYEV, I.V.

Attachment to the VP-101-type machines for testing corrosion  
cracking. Zav. lab. 30 no.1:109 '64.  
(MIRA 17:9)

APPROVED FOR RELEASE: 08/25/2000

CIA-RDP86-00513R000516320010-3"

SOV/123-59-15-59551

Translation from: Referativnyy zhurnal. Mashinostroyeniye, 1959, Nr 15, p 96 (USSR)

AUTHOR: Gorshkov, V.G.

TITLE: The Kinematics of the Thread Indicator

PERIODICAL: Sb. nauchn. tr. Kuybyshevsk. industr. in-ta, Mekhanika, 1958, Nr 7,  
pp 135 - 141

ABSTRACT: The thread indicator is investigated as a differential mechanism. Based  
on the equation which determines the kinematics of a differential mechanism,  
the best layout of a machine tool (the number of graduations on the limb of  
the thread indicator and the number of teeth of the thread indicator gears)  
for cutting inch and metric thread is selected. 4 figures.

K.K.A.

Card 1/1

83761

S/056/60/039/003/010/045  
B006/B063*24.4500*

AUTHORS: Krutov, V. A., Gorshkov, V. G.

TITLE: Higher Born Approximations in Pair Conversion 19PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1960,  
Vol. 39, No. 3(9), pp. 591-599

TEXT: Quantum-theoretical nuclear problems are frequently treated without considering the nuclear Coulomb field (zeroth Born approximation) since higher approximations with respect to the Coulomb field lead to great difficulties. Particularly great difficulties are encountered when studying nuclear conversion transitions with electron - positron pair production. Expressions for the transition probability have hitherto been obtained only in first Born approximation. The present paper describes an investigation of higher Born approximations with respect to the Coulomb field. A Yukawa potential is taken as the perturbing potential. A passage to the limit of a pure Coulomb field is carried out only in the final formulas. The first part of the paper gives a few general relations which may be used not only for pair conversion but also for describing other effects

Card 1/2

83761

Higher Born Approximations in Pair Conversion S/056/60/039/003/010/045  
B006/B063

as, e.g., the photoeffect. Formula (1) gives the matrix element that describes quantum transitions of an electron (positron) under the action of an electromagnetic field. Formula (2) describes the wave functions, and formula (3) the nuclear field. All these formulas are then written down also in momentum representation. The second part deals with nuclear conversion transitions with pair production in higher Born approximations. The third part describes the calculation of the pair conversion probability in first approximation. The calculation is supplemented by various formulas in an appendix. A lecture on the subject of the present paper was delivered by the present authors on the Ninth All-Union Conference on Nuclear Spectroscopy which took place in Khar'kov in January, 1959.

A. I. Akhiyezer, V. B. Berestetskiy, A. Z. Dolginov, and K. A. Ter-Martirosyan are mentioned. The authors thank B. S. Dzhelepov and L. A. Sliv for discussions and advice. There are 5 references: 3 Soviet,

1 British, and 1 US.

ASSOCIATION: Leningradskiy fiziko-tekhnickeskiy institut Akademii nauk SSSR (Leningrad Institute of Physics and Technology of the Academy of Sciences USSR)

SUBMITTED: March 1, 1960

Card 2/2

86917

S/056/60/039/005/034/051  
B006/B077

24.450

AUTHOR: Gorshkov, V. G.

TITLE: Consideration of the Nuclear Coulomb Field in Processes Involving the Interaction Between Electrons and an Electromagnetic Field

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1960, Vol. 39, No. 5(11), pp. 1411 - 1421

TEXT: The aim of this paper was to find the derivations of expressions for matrix elements of interactions between electrons and the electromagnetic field near the nucleus which are convenient for practical calculations. Since it is impossible to get an exact expression for the relativistic wave functions of the electrons in a nuclear Coulomb field the Furry-Sommerfeld-Maue (FSM) function or the Born series is used as an approximation method; both methods allow only an accuracy to the terms proportional to  $\alpha Z$ , except for the case of elastic scattering of electrons by the Coulomb field where the probabilities can be calculated exactly up to terms proportional to  $(\alpha Z)^2$ . In the first part of this

Card 1/2

86917

Consideration of the Nuclear Coulomb Field S/056/60/039/005/034/051  
in Processes Involving the Interaction B006/B077  
Between Electrons and an Electromagnetic Field

work the relationship between the FSM-function and the Born series is investigated and determined and due to this relation the correction (proportional  $(\alpha Z)^2$ ) necessary for the FSM-function is calculated. In the second part of this paper formulas are derived for the practical calculation of the matrix elements which are obtained in these processes as second Born approximation (i.e. accurate up to and including the terms proportional to  $(\alpha Z)^2$ ). As perturbing potential, the initially screened Coulomb potential is chosen. In the final result the screening parameter tends to zero and it is found that the diverging terms in the expression for the probability can be cancelled. The author thanks L. A. Sliv, B. A. Volchek, and V. A. Krutov for their interest in this work. There are 4 references: 1 Soviet, 1 Austrian, and 2 US.

**ASSOCIATION:** Leningradskiy fiziko-tehnicheskiy institut Akademii nauk SSSR (Leningrad Institute of Physics and Technology of the Academy of Sciences USSR)

SUBMITTED: June 22, 1960

Card 2/2

DORSHKOV, V.G.

2

PHASE I BOOK EXPLOITATION

SOV/5914

Akademiya nauk SSSR. Fiziko-tehnicheskiy institut im. A. F. Ioffe  
Gamma-luchi (Gamma Rays) Moscow, Izd-vo AN SSSR, 1961. 720 p.  
Errata slip inserted. 3300 copies printed.

Sponsoring Agency: Akademiya nauk SSSR. Fiziko-tehnicheskiy institut  
im. A. F. Ioffe.

Resp. Ed.: L. A. Sliv, Doctor of Physics and Mathematics; Ed. of  
Publishing House: N. K. Zaychik; Tech. Ed.: A. V. Smirnova.

PURPOSE: This book is intended for theoretical and experimental  
physicists working in the field of nuclear spectroscopy and in  
related fields where gamma rays are utilized. It may also be  
useful to advanced students of physics.

COVERAGE: The book, representing a symposium of papers whose authors  
are specialists in their areas, attempts to provide the fullest  
possible coverage of theoretical and experimental methods of

Card 1/2

## Gamma Rays

SOV/5914

determining nuclear gamma-radiation characteristics and the use  
of gamma rays to study matter, particularly nuclear structure.  
The book contains a large number of tables, graphs, and nomo-  
graphs and can be used as an encyclopedic manual on gamma rays.  
No personalities are mentioned. References accompany each part.

## TABLE OF CONTENTS [Abridged]:

## Foreword

PART 1. NUCLEAR RADIATIVE TRANSITIONS IN A SHELL MODEL  
(M. Ye. Voykhanskiy)

Ch. 1. Gamma Radiation of Nuclei	3
Ch. 2. Radiative Transitions in a Single-Particle Shell Model	5
Ch. 3. Formulas and Nomograms For Determining $T_{1/2}$	9
Card 2/2	20

Gamma Rays

SOV/5914

Appendix IV

500

PART 5. CONVERSION TRANSITIONS OF NUCLEI WITH PAIR FORMATIONS  
(V. A. Krutov and V. G. Gorshkov)

Ch. 1. Preface	508
Ch. 2. Calculations by Means of Relativistic Coulomb Functions	510
Ch. 3. Born Approximation	511
Ch. 4. Nonrelativistic Approximation	517
Ch. 5. EO-Transitions	519
Ch. 6. Conversion Transitions Resulting in the Formation of Monoenergetic Positrons	521
Bibliography	
Card 6/11	522

S/058/62/000/007/023/068  
A061/A101

AUTHORS: Krutov, V. A., Gorshkov, V. G.

TITLE: Conversion transitions with pair production

PERIODICAL: Referativnyy zhurnal, Fizika, no. 7, 1962, 27, abstract 7B219  
(In collection: "Gamma-luchi". Moscow-Leningrad, AN SSSR, 1961,  
508 - 522)

TEXT: The results of all calculations, precise and approximate, performed to this day for the pair conversion coefficient without taking account of nuclear finite dimensions and shielding, are presented. Diagrams of the energy and angular distributions of the pair conversion coefficient, calculated in zeroth, first, and second Born approximations over the Coulomb field of the nucleus, are considered. E0 transitions and conversion transitions with monochromatic positron production are also analyzed.

V. Gorshkov

[Abstracter's note: Complete translation]

Card 1/1

GORSHKOV, V.G.

Relativistic perturbation theory for a Coulomb field. Zhur.  
eksp. i teor. fiz. 40 no.5:1481-1490 My '61. (MIRA 14:7)

1. Leningradskiy fiziko-tehnicheskiy institut AN SSSR.  
(Coulomb functions)

GORSHKOV, V.G.

Theory of relativistic Coulomb scattering. Part 1. Zhur.ekspl.  
teor.fiz. 41 no.3:977-984 S '61. (MIRA 15:2)

1. Leningradskiy fiziko-tehnicheskiy institut AN SSSR.  
(Particles (Nuclear physics)--Scattering)

24 (400)

38212

S/057/62/032/006/022/022  
B108/B102

AUTHORS: Gorshkov, V. G., and Tsvetkov, O. S.

TITLE: Distribution of the alpha-particle paths in a spherical source

PERIODICAL: Zhurnal tekhnicheskoy fiziki, v. 32, no. 6, 1962, 774 - 776

TEXT: Starting from the distribution of the particle number along the path  $l$  of a particle in a sphere of radius  $R$ , namely  $W(l,r) = \frac{1}{n} \frac{dn(l,r)}{dvdl}$   
 $= \frac{R^2 + l^2 - r^2}{4rl^2}$ , the authors calculated the distribution  $W(l)$  of the paths of the particles emitted from any point in the sphere:  $W(l) = \frac{3}{16R^3} (4R^2 - l^2)$ .

From this it follows that the mean path of the particles in a sphere is  $\frac{3}{4} R$ . Measurements of the neutron yield from mixtures of various light elements with uranium and thorium gave a good agreement (5%) with this result. There are 2 figures.

Card 1/2

S/056/62/043/003/039/063  
B108/B102

AUTHORS: Gorshkov, V. G., Mikhaylov, A. I.

TITLE: Angular distribution of photoelectrons from the K shell

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 43,  
no. 3(9), 1962, 991 - 1004

TEXT: The K shell photoelectron angular distribution is calculated using a power expansion in  $\alpha Z$  as the electron wave function in the Coulomb field (V. G. Gorshkov, ZhETF, 40, 1481, 1961). Further, the matrix element is expanded in terms of  $\eta = m\alpha Z$ . The effect of screening on the K electron wave function can be taken into account by substituting  $Z_{eff} = Z - 0.3$  for  $Z$ . This is not done here since the correction would be beyond the accuracy of measurement. The angular distribution is

$$I(0, \cos^2 \phi) = d\sigma/d\Omega = (\alpha Z)^3 M \{F + \pi\alpha Z G + (\alpha Z)^2 H\}, \quad (27)$$

$$M = \frac{(2\pi)^3 \alpha p E}{k} \frac{2}{\pi} N_b^2 N_p^2 \left| \left( \frac{a_0}{b_0} \right)^{\alpha} \right|^2 \frac{8p^2 mk}{AE(2EA)^4} = \alpha \frac{4\pi m p^2}{E^2 h} N_b^2 N_p^2 \left| \left( \frac{a_0}{b_0} \right)^{\alpha} \right|^2. \quad (28)$$

Card 1/3

$$\cos \theta = \frac{pk}{\rho k}, \quad \cos^2 \phi = \frac{(pe)^2}{\rho^2 \sin^2 \theta}, \quad N_p^2 = \frac{2\pi \xi}{1 - e^{-2\pi \xi}},$$

Angular distribution of...

S/056/62/043/003/039/063  
B108/B102

where  $N_p = e^{\pi\xi/2} |\Gamma(1 - i\xi)|$ ,  $\xi = \alpha ZE/p$ ,  $N_b^2 = (2\eta)^{2\gamma+1} (1+\gamma)/8\pi\Gamma(2\gamma+1)\Gamma^2(1+\sigma)$ ,  $\gamma = (1-\alpha^2 Z^2)^{1/2}$ ,  $\sigma = 1-\gamma$ .  $a_0 = q^2 + \tau_1^2$ ,  $b_0 = k^2 - (p+i\eta)^2$ ,  $\vec{q} = \vec{k} - \vec{p}$ ;  $(a_0/b_0)^{i\xi} \approx |a_0/b_0|^{i\xi} \exp(-\xi paZ/k) \exp(-\xi\pi)$ . The expression for the second correction of the order  $(\alpha Z)^2$  in Sauter's formula cannot be represented in analytical form unless it is expanded in a series of a new parameter. For forward scattering, expansion of the matrix element with respect to  $\eta$  yields

$$I(0) = \frac{d\sigma}{d\Omega} \Big|_{\theta=0} = (\alpha Z)^2 MR \{ F_1 + \pi\alpha Z G_1 + \pi\alpha Z^2 G_2 \}, \quad (50)$$

$$F_1 = \frac{m^3}{q^4} |\tau_1|^2 = \frac{m^3}{16q^4} \left(1 - \frac{q}{2k}\right)^2 \left[ \left(\pi \frac{k}{p}\right)^2 + 4 \left(1 - \frac{q^2}{2kp} \ln \frac{k}{q}\right) \right], \quad (51)$$

$$\begin{aligned} G_1 &= \frac{m^3}{q^4} 2 \operatorname{Re} (\tau_0 + \tau_1) \tau_1^* = \\ &= \frac{m^3}{2q^4} \left(1 - \frac{q}{2k}\right) \left[ 1 + \frac{k}{p} \operatorname{Re} \tau_0 - 2 \left(1 - \frac{q^2}{2kp} \ln \frac{k}{q}\right) \operatorname{Im} \tau_0 \right], \end{aligned} \quad (52)$$

$$G_2 = \frac{137}{121} \frac{m^3}{q^4} 2 \operatorname{Re} \tau_0 \tau_1^* = 1.47 \frac{m^4}{q^4} \left(1 - \frac{q}{2k}\right) \frac{k}{p} \quad (53)$$

Card 2/3

Angular distribution of...

S/056/62/043/003/039/063  
B108/B102

where  $R = 2k^5 E^4 / m^3 p^2 q^4$ ,  $h = p+k$ . The  $\tau$ 's are the expansion coefficients. The quantity usually measured is the ratio  $\propto (k, Z, \theta_{\max}) = I(0)/I_{\max}$ . The calculated ratio is in good agreement with experimental data. This is due partly to the fact that the errors in Eq. (27) and in Eq. (50) cancel out. There is 1 figure.

ASSOCIATION: Fiziko-tehnicheskiy institut im. A. F. Ioffe Akademii nauk SSSR (Physicotechnical Institute imeni A. F. Ioffe of the Academy of Sciences USSR)

SUBMITTED: April 2, 1962

Card 3/3

KRUTOV, V.A.; GORSHKOV, V.G.

Higher Born approximations in pair conversion. Zhur. eksp. i  
teor. fiz. 39 no.3:591-599 S '60. (MIRA 13:10)

1. Leningradskiy fiziko-tekhnicheskiy institut Akademii nauk  
SSSR.  
(Quantum theory) (Collisions (Nuclear physics))

GORSHKOV, V.G.; TSVETKOV, O.S.

Distribution of alpha particle paths in a spherical source. Zhur.  
tekhn. fiz. 32 no.6:774-776 Je '62. (MIRA 1967)

1. Fiziko-tehnicheskiy institut AN SSSR i Radiyevyy institut AN SSSR.  
(Alpha rays)

GORSKHOV, V.G.; MIKHAYLOV, A.I.

Angular distribution of photoelectrons from the K-shell. Zhur. eksp. i teor. fiz. 43 no.3:991-1004 '62.  
(MIRA 15:10)

1. Fiziko-tehnicheskiy institut imeni A.F.Ioffe AN SSSR.  
(Photoelectricity) (Quantum theory)

S/056/62/043/005/025/058  
B102/B104

AUTHOR: Gorshkov, V. G.

TITLE: Theory of relativistic Coulomb scattering. II

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 43,  
no. 5(11), 1962, 1714 - 1726

TEXT: The author continues previous studies (I: ZhETF, 41, 977, 1961) and derives formulas for the cross section of elastic scattering of electrons from nuclei. He takes account of the screening effect and of the finiteness of nuclear dimensions. The potential produced by the shell and by the smeared nuclear charge is considered as perturbation. The generalized Furry-Sommerfeld-Maue functions in the nuclear Coulomb field are taken as unperturbed wave functions. The small parameter needed for the expansion of the scattering matrix elements was obtained from the Laplace transform of the density of nucleus and shell. For the scattering matrix elements

$$S_0 = 2\pi^2 \langle \mathbf{k} | \hat{V}_1 | \varphi_p^0 \rangle = \gamma_e a Z q^{-2} \exp(i \frac{\epsilon}{\hbar} \ln \epsilon^2), \quad (20)$$

Card 1/4

Theory of relativistic...

S/056/62/043/005/025/058  
B102/B104

$$S_1 = \gamma_4 \frac{qZ}{q^2 - \epsilon^2 + \mu^2} \left\{ 1 + i \xi 2 \ln \frac{\epsilon^2 + \mu^2}{\mu(1+i\mu)} - \right. \\ \left. - \xi^2 \left[ 2 \ln^2 \frac{\epsilon^2 + \mu^2}{\epsilon(1+i\mu)} + 4 \ln \frac{\epsilon^2 + \mu^2}{\epsilon(1+i\mu)} \ln \frac{\epsilon}{\mu} - L_2 \left( -\frac{\mu^2}{\epsilon^2} \right) \right] \right\}, \quad (21)$$

$$S_2 = 2\pi^2 \langle \varphi_k^0 | \hat{V}(\lambda) | \varphi_p^1 \rangle = 2\pi^2 \langle \varphi_k^1 | \hat{V}(\lambda) | \varphi_p^0 \rangle = \\ = \gamma_4 \frac{(\alpha Z)^2}{q^2} \frac{E - \gamma_4 m}{p} \left\{ K_1(\mu) + 2\alpha Z \frac{E}{p} \left[ K_2(\mu) + \frac{\pi}{2} K_1(\mu) \right] \right\}, \quad (22)$$

$$S_3 = \gamma_4 \frac{(qZ)^2}{q^2} \frac{m(\gamma_4 E - m)}{p^2} K_3(\mu), \quad (23)$$

$$S_4 = 2\pi^2 \langle \varphi_k^0 | \hat{V}(\lambda) G \hat{V}_1 | \varphi_p^1 \rangle = 2\pi^2 \langle \varphi_k^1 | \hat{V}_1 G \hat{V}(\lambda) | \varphi_p^0 \rangle = \\ = \gamma_4 \frac{(\alpha Z)^2}{q^2} \left\{ \frac{E}{p} \frac{E - \gamma_4 m}{p} K_3^1(\mu) + \frac{m(\gamma_4 E - m)}{p} K_3^1(\mu) \right\}, \quad (24)$$

$$S_5 = 2\pi^2 \langle \varphi_k^0 | \hat{V}(\lambda_1) G \hat{V}(\lambda_2) | \varphi_p^0 \rangle = \\ = -\gamma_4 \frac{(\alpha Z)^2}{q^2} \left\{ \frac{E}{p} K_4(\mu_1, \mu_2) + \frac{E - \gamma_4 m}{p} K_3(\mu_1, \mu_2) \right\}. \quad (25)$$

is obtained;  $\mu = \lambda/2p$ ,  $\epsilon = q/2p$ ;  $r_Q(r) = \frac{Z}{4\pi} \int_0^\infty \chi(\lambda) r^2 e^{-\lambda r} d\lambda$ .  $Q_1$  and  $R_1$   
Card 2/4

Theory of relativistic...

S/056/62/043/005/025/058  
B102/B104

are given in  $I$ ,  $Q_2$  and  $R_2$ . The cross sections can be calculated with

$$\sigma(\theta) = \sigma_R Q (1 + S n \xi), \quad \sigma_R = \left( \frac{e}{2p} \right)^2 \frac{1}{\epsilon^4}, \quad n = \frac{|kp|}{kp \sin \theta}; \quad (26)$$

$$\epsilon = \sin \frac{\theta}{2}, \quad \cos \theta = \frac{kp}{|kp|}, \quad Q = Q_1 + Q_2,$$

$$S = \frac{R}{Q}, \quad R = R_1 + R_2, \quad (27)$$

$\xi = \alpha Z E / p$ . The nonrelativistic scattering amplitudes for a potential of the shape  $e^{-\lambda r}/r$  are obtained in perturbation-theoretical approximation for small  $\lambda$ :

$$f(q, \lambda) = \gamma_s \frac{\alpha Z}{q^2} g(\epsilon, \mu) e^{-2\pi q n \mu}, \quad g(\epsilon, 0) = e^{\epsilon \ln \epsilon}. \quad (43).$$

The special cases: scattering with  $E < 1$  Mev and scattering with  $E > 1$  Mev are discussed in detail. Since the Laplace transformation explicitly yields the small parameters  $\mu_s$ , the expressions for  $Q_2$  and  $R_2$  are very simple for these special cases. Also the cross section formula for  $E > 1$  Mev

Card 3/4

Theory of relativistic...

S/056/62/043/005/025/058  
B102/B104

$$\sigma(\theta) = \sigma_R (1 - e)^2 \left\{ [r \rho_n(r)]_{r \rightarrow 0} \frac{1}{4p^3} \right\} \left( 1 - 8aZ \left\langle \frac{1}{2pR} \right\rangle \right). \quad (57)$$

is well suited for numerical calculations. The only difficulty of the method proposed are the terms with  $\ln \mu$  which arise in the scattering amplitudes. They can be joined, however, in the phase factor  $e^{i\phi}$  which does not enter the cross section formulas. If  $Z$  is not too small the screening effect increases the electron scattering cross section and reduces the positron scattering cross section (cf. Phys. Rev. 113, 1057, 1959). There are 2 figures.

ASSOCIATION: Fiziko-tehnicheskiy institut im. A. F. Ioffe Akademii nauk SSSR (Physicotechnical Institute imeni A. F. Ioffe of the Academy of Sciences USSR)

SUBMITTED: May 8, 1962

Card 4/4

L 10217-63 EWT(1)/EWT(m)/FCC(w)/

DDS--AFFTC/ASD--IJP(C)

ACCESSION NR: AP3000076

S/0056/63/044/005/1747/1749

58

54

AUTHOR: Gorshkov, V. G.; Frolov, G. V.

TITLE: Asymptotic relations between large-angle scattering cross sections 19

SOURCE: Zhurnal eksper. i teoret. fiziki, v. 44, no. 5, 1963, 1747-1749

TOPIC TAGS: Large angle scattering, cross sections, Regge poles, asymptotic relations

ABSTRACT: Relations are established between cross sections of various processes for large-angle scattering, following a hypothesis by Pomeranchuk, similar to the relations already established for small angle scattering, within the framework of the Regge pole method. The processes first considered are the nucleon Compton effect, photoproduction of pions, and pion-nucleon scattering. It is pointed out that in contrast with the narrow-angle relations, the experimental verification of the large-angle relations does not require the scattering of unstable particles on each other. Other processes whose intermediate states are characterized by the same quantum numbers are likewise assumed to be all

Card 1/2

L 10217-63

ACCESSION NR: AP3000076

4

dominated by one principal Regge pole. "We are deeply grateful for numerous useful discussions to V. N. Gribov." Orig. art. has: 6 formulas.

ASSOCIATION: Fiziko-tehnicheskiy institut im. A. F. Ioffe Akademii nauk SSSR  
(Physicotechnical Inst. Acad. Sci. SSSR), Radiyevyy inst. AN SSSR (Radium Inst.  
Acad. Sci. SSSR)

SUBMITTED: 23Mar63 DATE ACQ: 12Jun63 ENCL: 00

SUB CODE: PH NR REF Sov: 004 OTHER: 002

Card

2/2

L 13842-63

AT/IJP(C) ←

ENT(1)/EWG(S)/BDS/SEC(b)-2

AFFTC/ASD/ESD-3 Pz-4

ACCESSION NR: AP3003150

S/0056/63/044/006/2142/2149

65  
63

AUTHOR: Gorshkov, V. G.; Mikhaylov, A. I.

TITLE: Atomic photoeffect at high energies

SOURCE: Zhurnal eksper. i teor. fiziki, v. 44, no. 6, 1963, 2142-2149

TOPIC TAGS: atomic photoeffect, high energies, extreme relativistic velocities, emitted electron wave function, distorted plane wave solution, angular distribution

ABSTRACT: It is shown that in the extreme relativistic case the main contribution to the photoeffect cross section is made by the wave function of the emitted electron in the form of a solution of the Schroedinger equation with energy E equal to the momentum p. The permissible error in the cross section is in this case of the order of the reciprocal of E squared. It is shown further that the results of the calculations with this function coincide with the results obtained when the distorted plane wave is used, rigorously proving by the same token the sufficiency of the use of the distorted plane wave in calculations for the high-energy photoeffect. An analytic expression is obtained for the photoeffect cross section at small angles. The limiting value of the nuclear charge Z, starting with which the maximum of the angular distribution of the photoelectrons coincides

Card 1/2

L 13842-63  
ACCESSION NR: AP3003150

2

with the zero angle, is determined. "The authors are indebted to L. A. Sliv for valuable comments and to B. Nagel for preprints of his papers. Orig. art. has 39 formulas.

ASSOCIATION: Fiziko-tehnicheskiy institut im. A. F. Ioffe Akademii nauk SSSR  
(Physicotechnical Institute, Academy of Sciences, SSSR)

SUBMITTED: 12Feb63 DATE ACQ: 23Jul63 ENCL: 00

SUB CODE: 00 NO REF Sov: 004 OTHER: 008

Card 2/2

REKALO, M.P.; GORSHKOV, V.G.; FROLOV, G.V.

Photoproduction of  $\pi^+$ -mesons on nucleons, and fermion Regge poles.  
Zhur. eksp. i teor. fiz. 45 no.3:672 S '63. (MIRA 16:10)

1. Fiziko-tehnicheskiy institut AN Ukrainskoy SSR i Fiziko-tehnicheskiy institut imeni A.F. Ioffe AN SSSR.  
(Mesons--Scattering) (Nuclear reactions)

GORSHKOV, V.G.; REKALO, M.P.; FROLOV, G.V.

Fermion Regge poles and the Compton effect. Zhur. eksp. i teor. fiz. 45 no.2:285-290 Ag '63.  
(MIRA 16:9)

1. Fiziko-tehnicheskiy institut imeni A.F.Ioffe AN SSSR,  
Fiziko-tehnicheskiy institut AN UkrSSR i Radiyevyy institut  
AN SSSR.

(Protons--Scattering) (Compton effect)

GORSHKOV, V.G.; RIDEL', K.

Effect of screening in pair conversion. Zhur. eksp. i teor.  
fiz. 45 no.5:1603-1605 N '63. (MIRA 17:1)

1. Fiziko-tehnicheskiy institut imeni A.F. Ioffe AN SSSR.

ACCESSION NR: AP4042261

8/0048/84/028/007/1169/1172

AUTHOR: Gorshkov, V.G.; Mikhaylov, A.I.

TITLE: Concerning the relativistic atomic photoeffect *Report, 14th Annual Conference on Nuclear Spectroscopy held in Tbilisi 14-21 Feb 1964*

SOURCE: AN SSSR. Izv. Sviya fizicheskaya, v.28, no.7, 1964, 1169-1172

TOPIC TAGS: photonuclear reaction, photoelectron, gamma cross section

ABSTRACT: The authors have put together an approximate relativistic formula for the atomic photoeffect cross section from the following components: a formula for the cross section at zero scattering angle which the present authors have previously published (V.G. Gorshkov and A.I. Mikhaylov, Zhur. eksp. i teor. fiz. 43, 991, 1962); the formula for the cross section derived by F. Sauter (Ann. Physik, 11, 454, 1931) and by M. Gavrilov (Phys. Rev. 113, 514, 1959; Nuovo cimento 15, 691, 1960), which is incorrect at small scattering angles; and a correction to the Sauter-Gavrilov formula which the present authors also published in the reference cited above. An error in the earlier paper is pointed out and corrected. The new formula is discussed briefly, and it is concluded that it is valid at all scattering angles, that it is applicable at phot-

1/2

ACCESSION NR: AP4042961

on energies as low as 0.3 MeV, and that its error is probably of the order of  $0.1(0.2)^2$  at photon energies greater than 0.5 MeV. The angular distributions of the photoelectrons ejected from neodymium and uranium by 0.662 MeV photons and from bismuth by 1.332 MeV photons were calculated, and the results are compared with those of similar calculations by R.H.Pratt, D.Levee, R.C.Pexton and W.Aron (Preprint ITP-92) and with the experimental data of A.A.Rimskiy-Korsakov and V.V.Smirnov (Zhur.eksp.i teor.fiz. 42,67,1962; Izv.AN SSSR,Ser.fiz.26,1169,1962). The results of the two calculations do not differ greatly, but those obtained with the present formula are in somewhat better agreement with the experimental data than are those of Pratt et al. "The authors are grateful to L.A.Sliv for critical remarks." Orig.art.has: 6 formulas and 3 figures.

ASSOCIATION: none

SUBMITTED: 21Nov63

SUB CODE: NP

MR REF Sov: 002

ENCL: 00

OTHER: 003

2/2

ACCESSION NR: AP4042578

S/0056/64/046/006/2132/2140

AUTHORS: Gorshkov, V. G.; Rekalo, M. P.; Frolov, G. V.

TITLE: Fermion Regge poles in processes involving vectons

SOURCE: Zh. eksper. i teor. fiz., v. 46, no. 6, 1964, 2132-2140

TOPIC TAGS: Regge pole, fermion, meson, meson scattering, vector meson, vecton

ABSTRACT: The asymptotic value and several relations are obtained for the cross sections of processes involving vector mesons, assuming the existence of one or several Regge poles. The processes considered are scattering of vectons (vector mesons) by nucleons (including photoproduction of vectons), production of vectons by pions on nucleons, and scattering of pions by nucleons. The singularities of the partial amplitudes are analyzed by using the amplitudes for transitions between states having different helicities. Relations

Card 1/2

ACCESSION NR: AP4042578

between the cross sections of the various processes are derived.  
"The authors are grateful to Ya. A. Azimov, A. I. Akhiyezer, D. V.  
Volkov, and V. N. Gribov for valuable critical remarks." Orig. art.  
has: 1 figure, 30 formulas, and 2 tables.

ASSOCIATION: Fiziko-tehnicheskiy institut im. A. F. Ioffe Akademii  
nauk SSSR (Physicotechnical Institute, Academy of Sciences SSSR)

SUBMITTED: 18Dec63

DATE ACQ:

ENCL: 00

SUB CODE: NP

NR REF SOV: 006

OTHER: 003

Card 2/2

GORSHKOV, V.G.

Coulomb Green functions. Zhur. eksp. i teor. fiz. 47  
no.1:352-359 J1 '64. (MIRA 17:9)

1. Fiziko-tehnicheskiy institut imeni Ioffe AN SSSR.

1974-5 EWT(1) DPL(c)/ESL/t.1974.10.14.4  
1974-5 RPA/1/1A

References:

1: concerning relativistic Coulomb function

2: Zurnal eksperimental'noy i teorieticheskoy fiziki, v. 47,  
No. 1, 1964.

3: Coulomb function. Green function and wave functions  
of bound states.

REMARK: In view of the fact that no closed expression has been  
obtained to date for the relativistic Coulomb Green function

Page 1/2

116514-65

ACCESSION NR: AP5000358

" infinite energy. Each term of this expansion is a definite function of arbitrary asymptotic momenta and angles. The author uses in his derivation the results obtained earlier (paper "ZhETF v. 47, p. 117, 1964"). At large values of the energy and at small values of the angle ( $\sim 1/E$ ) this expansion contains an additional small parameter of the order  $1/E$ . The author thanks A. V. Kostrikin for useful discussions.

TRANSLATION: Fiziko-tekhnicheskiy institut Akademii Nauk SSSR (Physicotechnical Institute, Academy of Sciences)

SUBMITTED: 30 May 64

SNCL: 66

SUE CODE: NP

NR REF Sov: 102

OTHER: 002

Card 2/2

GORSHKOV, V.G.; REKALO, M.P.; FROLOV, G.V.

Fermion Regge poles in processes involving vectons. Zhur.eksp.  
i teor.fiz. 46 no.6:2132-2140 Je '64.

1. Fiziko-tekhnicheskiy institut im. A.F. Ioffe AN SSSR.  
(MIRA 17:10)

"APPROVED FOR RELEASE: 08/25/2000

CIA-RDP86-00513R000516320010-3

GORSHKOV, V.G.

Relativistic Coulomb functions. Zhur. eksp. i teor. fiz. 47 no.5:  
1984-1988 N 164.  
(MIRA 18:2)

1. Fiziko-tehnicheskiy institut imeni Ioffe AN SSSR.

APPROVED FOR RELEASE: 08/25/2000

CIA-RDP86-00513R000516320010-3"

ACC NR: AP7008892

SOURCE CODE: UR/0386/66/004/008/0321/0325

AUTHOR: Gorshkov, V. G.; Gribov, V. N.; Lipatov, L. N.; Frolov, G. V.  
ORG: Physico-technical Institute imeni A. F. Ioffe, Academy of Sciences USSR  
(Fiziko-tehnicheskiy institut AN SSSR)

TITLE: Doubly logarithmic asymptotic behavior in quantum electrodynamics  
SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki. Pis'ma v  
redaktsiyu, v. 4, no. 8, 1966, 321-325

TOPIC TAGS: asymptotic property, quantum electrodynamics  
SUB CODE: 20,12

ABSTRACT: The article considers possible doubly logarithmic, asymptotic forms  
of Feynman diagrams in quantum electrodynamics. All processes are classified  
according to charge Z propagating in a t-channel intermediate state. The  
authors thank I. A. MALIKIN, I. Ya. POMERANCHUK, and Ye. S. FRADKIN for their  
useful discussions. Orig. art. has: 3 figures and 4 formulas. [JPRS: 39,688]

Card 1/1

0929 1697

NEVEL'SON, M.I.; NIKITIN, A.I.; YANISHEVSKIY, V.V.; BOYKO, G.G.; KUZNETSOV,  
N.I.; BULANOVA, I.A.; GORSHKOV, V.I.; KATSMAN, I.A.; KUKAYEVA, YE.V.;  
RYZHOOVA, V.V.; TUROBOVA, V.I.; CHEREDEYEVA, Ye.M.; KOSHELKIN, M.V.

Development of highly efficient ventilator models ORGRES operating  
according to a 0.68-161° system for electric power plants. Prem.  
energ. 18 no.7:8-9 Jl '63. (MIRA 16:9)

(Electric power plants—Electric equipment)  
(Fans, Electric)